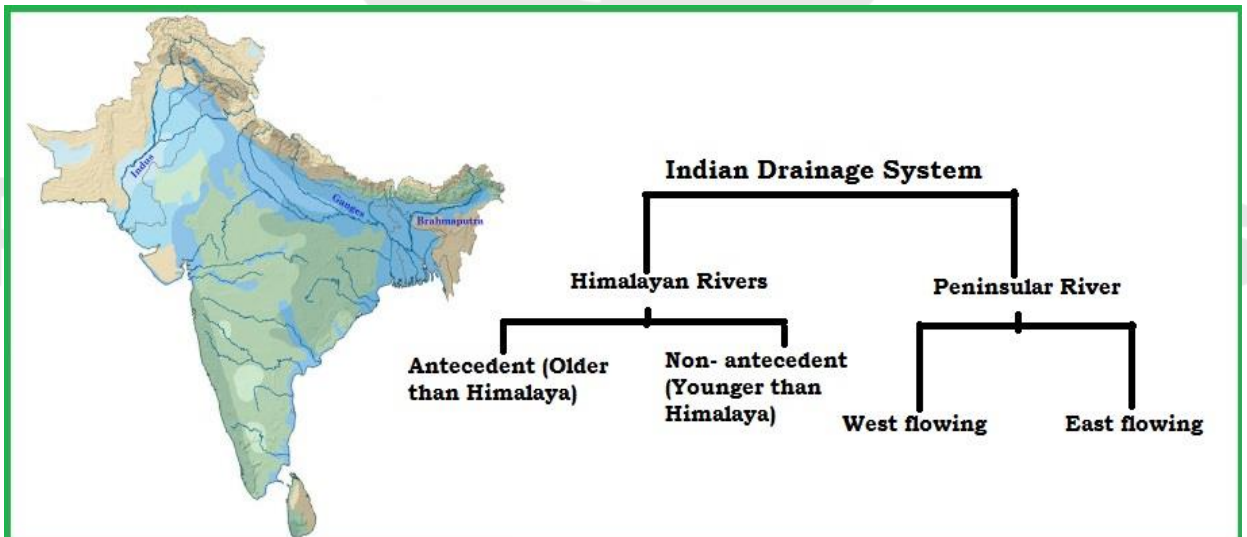


Peninsular River System



- Peninsula rivers are much older than the Himalayan rivers
- The velocity of water in the rivers and the load carrying capacity of the streams is low due to low gradient.
- Most of the major rivers of the peninsula such as the Mahanadi, the Godavari, the Krishna and the Cauvery flow eastwards and drain into the Bay of Bengal. These rivers make deltas at their mouths.
- But the west flowing rivers of Narmada and Tapi as well as those originating from the Western Ghats and falling in the Arabian Sea form estuaries in place of deltas.

An estuary is a partially enclosed body of water along the coast where freshwater from rivers and streams meets and mixes with saltwater from the ocean. (Primary productivity in estuaries is very high. Fishing is a dominant occupation around estuaries. Most of the estuaries are good bird sanctuaries).



Rivers that drain into the Ganges

- Chambal River
- Banas River
- Sind River
- Betwa River
- Ken River
- Son River
- Damodar River

East Flowing Peninsular Rivers

- Mahanadi River
- Godavari River
- Krishna River
- Kaveri (Cauvery) River
- Pennar River
- Subarnarekha River
- Brahmani River
- Sarada River
- Ponnaiyar River
- Vaigai River

West Flowing Peninsular Rivers

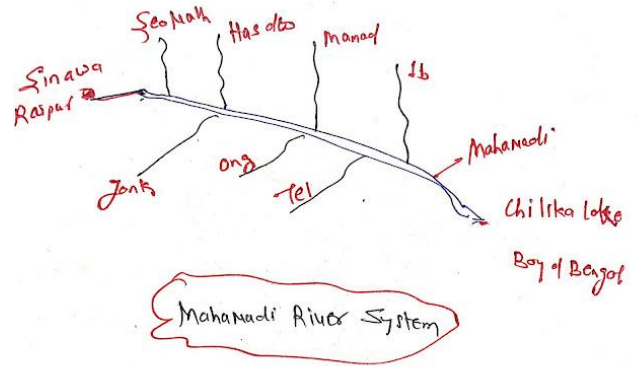
- Narmada River
- Tapti River
- Sabarmati River
- Mahi River
- Luni River

Mahanadi Basin

- The Mahanadi basin extends over states of Chhattisgarh and Odisha and comparatively smaller portions of Jharkhand, Maharashtra and Madhya Pradesh, draining an area of 1.4 lakh Sq.km.
- Origin:
- Sinawa in Raipur district of Chhattisgarh.
- Length: 852 km



- Left Bank tributaries:
- Seonath
- Hasdeo
- Manoh
- Right Bank tributaries:
- Jank
- Ong
- Tel
- At Sambalpur the Hirakud Dam (one of the largest dams in India) on the river has formed a man-made lake 35 miles (55 km) long.
- It enters the Odisha plains near Cuttack and enters the Bay of Bengal at False Point by several channels.
- Puri, at one of its mouths, is a famous pilgrimage site.

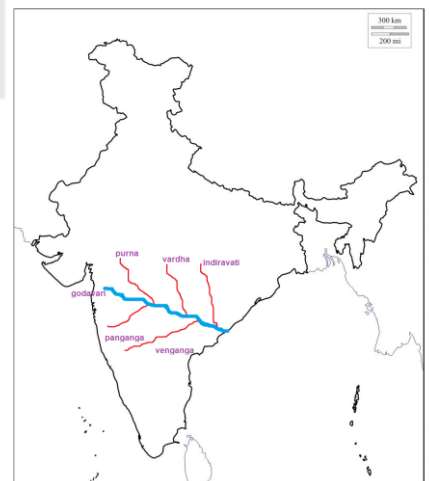


Industry in Mahanadi River Basin

- Three important urban centres in the basin are Raipur, Durg and Cuttack.
- Mahanadi basin, because of its rich mineral resource and adequate power resource, has a favorable industrial climate.
- The Important industries presently existing in the basin are the Iron and Steel plant at Bhilai, aluminium factories at Hirakud and Korba, paper mill near Cuttack and cement factory at Sundargarh.
- Other industries based primarily on agricultural produce are sugar and textile mills.
- Mining of coal, iron and manganese are other industrial activities.

Godavari River

- The Godavari is the largest river system of the Peninsular India and is revered as Dakshina Ganga.
- The Godavari basin extends over states of Maharashtra, Andhra Pradesh, Chhattisgarh and Odisha in addition to smaller parts in Madhya Pradesh, Karnataka and Union territory of Puducherry (Yanam) having a total area of ~ 3 lakh Sq.km.
- The Godavari River rises from Trimbakeshwar in the Nashik district of Maharashtra about 80 km from the Arabian Sea at an elevation of 1,067 m.
- The total length of Godavari from its origin to outfall into the Bay of Bengal is 1,465 km.



- Left bank Tributaries:
 - Banganaga
 - Purna
 - Pen Ganga
 - Warda
 - Wainganga
 - Indravati
 - Sabari
- Right bank tributaries:
 - Darna
 - Manjira
- The banks of this river have many pilgrimage sites, Nasik(MH), Bhadrachalam(TS), and Trimbak. Some of its tributaries include Pranahita (Combination of Penuganga and Warda)

Below Rajahmundry, the river divides itself into two main streams, the Gautami Godavari on the east and the Vashishta Godavari on the west and forms a large delta before it pours into the Bay of Bengal.



Penganga

- Rises from Ajanta hills (Maharashtra)
- a tributary of River Wardha which finally merges into Godavari

Krishna River

- The Krishna is the second largest east flowing river of the Peninsula.
- The Krishna Basin extends over Andhra Pradesh, Maharashtra and Karnataka having a total area of ~2.6 lakh Sq.km.
- Origin:
 - Near Mahabaleshwar in Sahyadri.
- Length: :1401 km
- Catchment areas:
 - 27% Maharashtra
 - 44% Karnataka.
 - 29% Andhra Pradesh and Telangana.



- Left Bank Tributaries
- Bhima
- Dindi
- Musi
- Paleru
- Munneru
- Right Bank Tributaries:
- Koyna
- GhatPrabha
- MalPrabha
- Tungabhadra



- The Koyna is a small tributary but is known for Koyna Dam. This dam was perhaps the main cause of the devastating earthquake (6.4 on richter scale) in 1967 that killed 150 people.
- The Bhima originates from the Matheron Hills and joins the Krishna near Raichur after for a distance of 861 km.
- The Tungabhadra is formed by the unification of the Tunga and the Bhadra originating from Gangamula in the Central Sahyadri. Its total length is 531 km.
- At Wazirabad, it receives its last important tributary, the Musi, on whose banks the city of Hyderabad is located.

Projects on Krishna River

- The major Hydro Power stations in the basin are Koyna, Tungabhadara, Sri Sailam, Nagarjuna Sagar, Almatti, Naryanpur, Bhadra.
- Tunagabhadra is a major inter-States project in the basin. In order to operate the project and to regulate the flows among the beneficiary States of Karnataka and Andhara Pradesh.

Cauvery River System

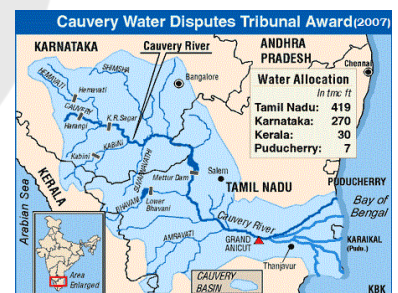
- The Cauvery River (Kaveri) is designated as the 'Dakshi Bharat ki Ganga' or 'the Ganga of the South'.
- The Cauvery River rises at an elevation of 1,341 m at Talakaveri on the Brahmagiri range near Cherangala village of Kodagu (Coorg) district of Karnataka.
- Length:
- 800 km
- The upper coarse of the river receives rainfall from the Southwest monsoon and the lower coarse of the river receives rainfall from the Northeast monsoon.
- Basin areas:
- 3% Kerala
- 41% Karnataka
- 56% of Tamil Nadu.



- Before emptying into the Bay of Bengal south of Cuddalore, Tamil Nadu the river breaks into a large number of distributaries forming a wide delta called the “garden of southern India”
- Left bank Tributaries:
 - Harangi
 - Hemavati
 - Shimshal
- Right Bank Tributaries:
 - Lakshmana
 - Kabini
 - Bhavani
 - Amravati

- Forms Shivasundaram Waterfalls
- Famous projects → Krishnaraja sagar & Mettur
- In 1924, Tamil Nadu built the Mettur dam across the Cauvery river.
- Subsequently, Karnataka and Tamil Nadu signed an agreement effective for 50 years.
- Accordingly, Tamil Nadu was allowed to expand its agricultural area by 11 lakh acres from the existing 16 lakh acres.
- Karnataka was authorized to increase its irrigation area from 3 lakh acres to 10 lakh acres.
- The Cauvery River thus primarily served the needs of farmers in Tamil Nadu.
- On completing 50 years, the accord lapsed in 1974.

- Subsequently, Karnataka claimed that the agreement restricted its ability to develop farming activities along the Cauvery basin.
- To make up the lost ground, Karnataka attempted to expand farming activities in the Cauvery basin.
- It started building reservoirs.
- With this, the Cauvery river water sharing issue emerged.
- It is now a major water sharing dispute among Tamil Nadu, Karnataka, Puducherry, and Kerala.
- Tribunal – By Tamil Nadu’s demand, the Union government formed the Cauvery Water Disputes Tribunal (CWDT) in 1990.
- The dispute was adjudicated by the Cauvery Water Disputes Tribunal (CWDT) in 2007.
- Both Tamil Nadu and Karnataka challenged the tribunal’s order.
- The court reserved its order in September 2017.

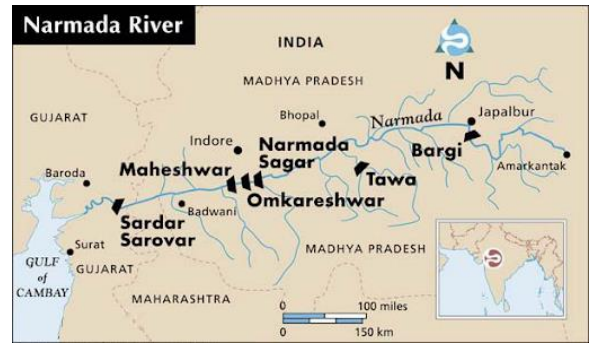


Narmada River System

- Origin → Amarkantak, Shahdol, MP
- Also known as Rewa River
- Flows through rift valley of Vindhya & Satpura
- Flow Route: MP → Bharuch (Gujrat) → Gulf of Khambat (Gujrat) → Arabian Sea via Estuary
- Longest among all east to west flowing rivers
- Known as Life line of MP
- Forms Duandhar falls at Jabalpur
- Tributary → Hiran River, Tawa River, Kolar River
- Aliabet → Largest Island in Estuary
- Dhanvandhar water fall in Jabal pur.
- Length: 1312 km



- Dams in Narmada river
- Sardar Sarovar Dam- Gujarat
- Indira Sagar Dam – Madhya Pradesh
- Omkareshwar Dam – Madhya Pradesh
- Maheshwar Dam – Madhya Pradesh
- Bargi Dam – Madhya Pradesh
- Maan Dam – Madhya Pradesh
- Jobat Dam – Madhya Pradesh
- Tawa Dam – Madhya Pradesh



Tapi River System

- The basin lies over states of Madhya Pradesh, Maharashtra and Gujarat.
- Total area of the river basin is 65,145 Sq.km
- The Tapi is the second largest westward draining river of the Peninsula.
- Source of the river :
- It originates near Multai reserve forest in Betul district of Madhya Pradesh

- On the right bank 4 tributaries namely.
- Vaki River
- The Gomai River
- The Arunavati River
- The Aner
- On the left bank, important tributaries namely

- Arunavati River
- Panjhra River
- Bori River
- Girna River
- Purna River
- Mona River



- Projects in Tapi River

- Hathnur Dam (Maharashtra)
- Kakrapar Weir (Gujarat)
- Ukai Dam (Gujarat)
- Girna Dam (Maharashtra)
- Dahigam Weir (Maharashtra)

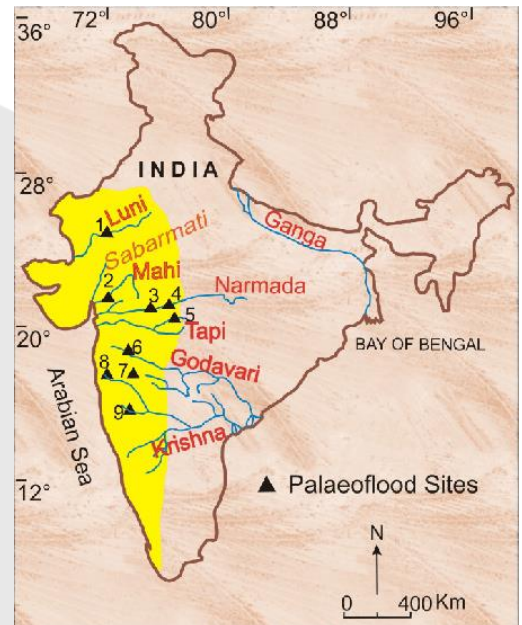


- Luni:
- The largest river system of Rajasthan lies in the west of Aravali.
- Discharge in ran of Kachchh
- The Luni or the Salt River (Lonari or Lavanavari in Sanskrit) is named so because its water is brackish below Balotra.



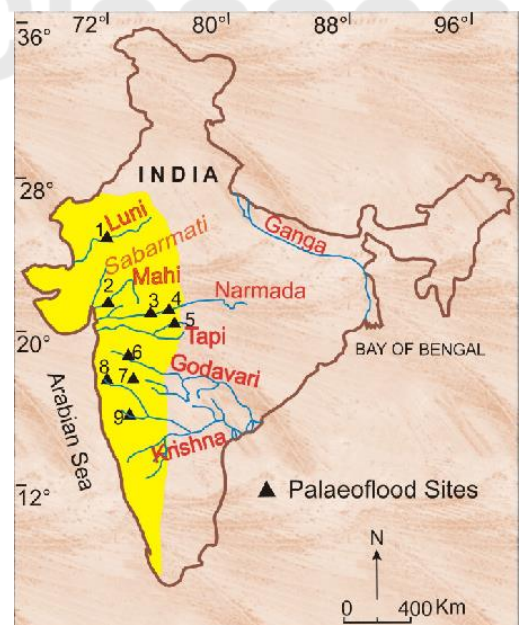
Mahi River

- Mahi is one of the major interstate west flowing rivers of India.
- It originates from the northern slopes of Vindhyas at an altitude of 500 m in the Dhar district of Madhya Pradesh.
- The total length of Mahi is 583 km.
- It drains into the Arabian Sea through the Gulf of Khambhat.
- The major part of the basin is covered with agricultural land accounting to 63.63% of the total area
- Hydro Power stations are located – Mahi Bajaj Sagar dam, Kadana Dam, and Wanakbori dam (Weir).
- Vadodara is the only important urban centre in the basin.

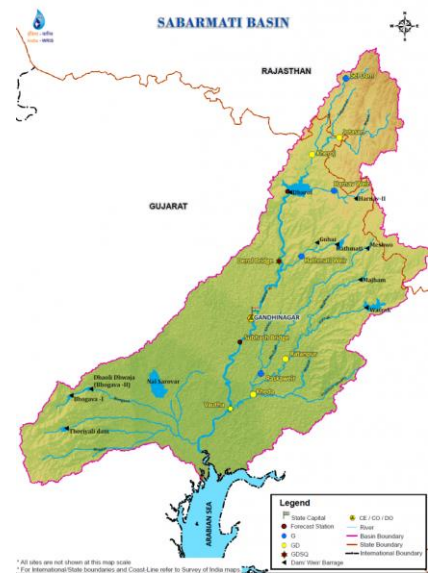


Sabarmati River

- The Sabarmati is the name given to the combined streams the Sabar and Hathmati.
- The Sabarmati basin extends over the states of Rajasthan and Gujarat having an area of 21,674 Sq km.
- Sabarmati originates from Aravalli hills at an elevation of 762 m near village Tepur, in the Udaipur district of Rajasthan.
- The total length of the river from origin to outfall into the Arabian Sea is 371 km.

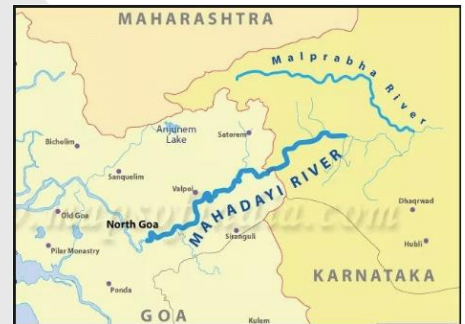


- Left bank tributaries: the Wakal, the Hathmati, and the Vatrak.
- Right bank tributaries: the Sei.
- Projects: Sabarmati reservoir (Dharoi), Hathmati reservoir, and Meshwo reservoir project are major projects completed during the plan period.
- Gandhinagar and Ahmedabad are the important urban centers in the basin.
- Ahmedabad is an industrial city situated on the banks of Sabarmati.

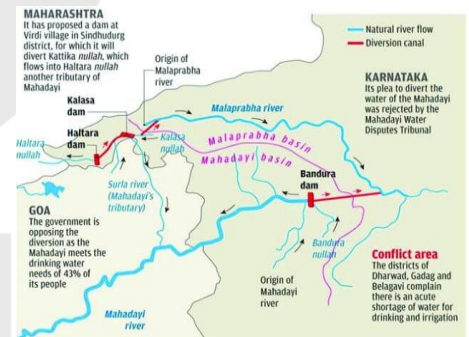


Mhadei river

- Mahadayi or Mhadei, the west-flowing river, originates in Bhimgad Wildlife Sanctuary (Western Ghats), Belagavi district of Karnataka.
- It is essentially a rain-fed river also called Mandovi in Goa.
- The river travels 35 km in Karnataka; 82 km in Goa before joining the Arabian Sea.
- Kalasa-Banduri Nala project



- Undertaken by the Government of Karnataka to improve drinking water supply to the Districts of Belagavi, Dharwad, and Gadag. It involves building across Kalasa and Banduri, two tributaries of the Mahadayi river to divert 7.56 TMC of water to the Malaprabha river.
- Kalasa-Banduri project was planned in 1989; Goa raised an objection to it.



Additional

Vaigai	<ul style="list-style-type: none"> • Rises from Palni hills (TN) • A seasonal river flows through TN • Drains in Gulf of Mannar
Periyar	<ul style="list-style-type: none"> • Rises from Western Ghats in Kerala • Flows towards west & drains in Arabian Sea via an estuary
Note → JOG falls, made by Sharavati river in Karnataka is Highest in India	

MAHANADI RIVER

• Passes through states :

1. Chhattisgarh
2. Odisha

ODISHA	
Cuttack	Mahanadi River
CHHATTISGARH	
Raipur	Mahanadi River

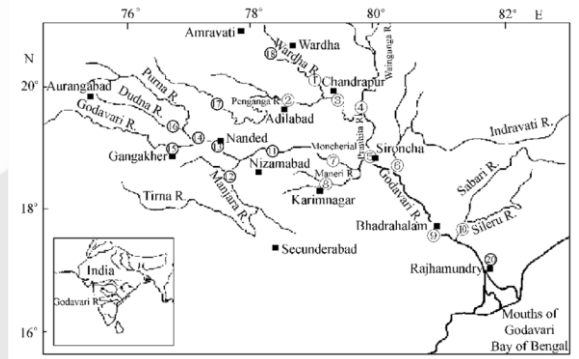


GODAVARI RIVER

• Passes through states :

1. Maharashtra
2. Telangana
3. Andhra Pradesh

MAHARASHTRA	
Nashik	Godavari River
TELANGANA	
Ramagundam	Godavari River
ANDHRA PRADESH	
Rajahmundry	Godavari River



KRISHNA RIVER

• Passes through states :

1. Maharashtra
2. Karnataka
3. Telangana
4. Andhra Pradesh

ANDHRA PRADESH	
Vijayawada	Krishna River
Machilipatnam	Krishna River
Kurnool	Tungabhadra River
Guntur	Krishna River
Amaravati	Krishna River
Srisaillam	Krishna River



MAHARASHTRA	
Mahabaleshwar	Krishna River
KARNATAKA	
Raichur	Krishna River and Tungabhadra River
Hampi	Tungabhadra River

CAUVERY RIVER

- Passes through states :
1. Karnataka
 2. Tamil Nadu



TAMIL NADU		KARNATAKA	
Tiruchirappalli	Kaveri River	Mysore	Kaveri River
Thanjavur	Kaveri River	Srirangapatna	Kaveri River

MISCELLANEOUS

<u>CITY</u>	<u>RIVER</u>	<u>STATE</u>
Rourkela	Brahmani River	Odisha
Madurai	Vaigai River	Tamil Nadu
Hyderabad	Musi River	Telangana

MCQ

Which river rises near Multai in Betul Plateau and flows between Vidhya and Satpura range?

- A. Tapi
- B. Narmada
- C. Mahi
- D. Sabarmati

Which river in India forms second largest river delta in India?

- A. Mahanadi
- B. Narmada
- C. Godavari
- D. Krishna

Which river that flows through the salt desert?

- A. Sabarmati
- B. Narmada
- C. Tapi
- D. Luni

The Jog waterfalls are on the river:

- A.Tunga Bhadra
- B.Sharavathi
- C.Koyna
- D.Netravathi

Tungabhadra and Bhima are the tributaries of:

- A.Krishna
- B.Cauvery
- C.Mahanadi
- D.Narmada

Question	Answer
1	A
2	C
3	D
4	B
5	A



Parcham Classes